

Discussing Solutions for Cancer Treatment at the Cancer Center of Bai Chay Hospital, Quang Ninh - And Experiences from Other Countries

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DOI: <http://doi.org/10.46431/MEJAST.2022.5205>

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Article Received: 19 February 2022

Article Accepted: 25 April 2022

Article Published: 31 May 2022

ABSTRACT

In recent years, the province's health sector has applied and applied many scientific and technical advances in health, information technology (IT) into its activities. As a result, it has brought about great achievements in professional work, especially in disease prevention and treatment, and IT application is also one of the breakthroughs of the provincial health sector. Our study objectives: showing Achievements in cancer treatment in Bai Chay hospital-Quang Ninh and presenting Lessons from other countries such as Japan in cancer treatment. By using methods of cross-sectional descriptive study. For Research period: from June 2019 to May 2020, Our study results and conclusions: We see from above figure that the highest ratio of 40% belong to health status in stage 1 (with not influence). And then, the lowest ratio of 12.9% is belonging to patients in stage 1 with very much influence, and so on.

Then, Patients living quality at levels of no effect, little influence, great influence and great influence all accounts for about 25%.

Keywords: Health status, Stages, Treatment, Liver cancer, Technology, Bai Chay hospital.

1. Introduction

Pioneering in implementing the project to build a smart hospital, Bai Chay Hospital applies smart medical examination cards with the goal of improving and shortening the medical examination and treatment process, providing high-quality medical services, guiding to patient satisfaction.

In addition to not having to wait in line for medical examination registration and hospital fee payment, smart medical examination cards also help clinics to coordinate and stream patients, check and manage medical examination and treatment history on the Internet. Software system, helping to control the patient's medical examination and treatment process conveniently, avoiding overload at peak hours. Patients can also look up subclinical results such as tests, ultrasounds, X-rays, etc. to monitor their own health status easily on the hospital's website.

The smart medical model has been deployed by Quang Ninh province since 2017. Up to now, the province has had 3 smart hospitals, including: Provincial General Hospital, Bai Chay Hospital, and Quang Ninh Obstetrics and Children's Hospital. Hospitals increase IT application, move towards paperless hospitals, and at the same time improve operating capacity and modernize. As a result, a number of processes have been automated, such as registration, medical examination and admission procedures, establishment and management, and use of electronic medical records; analysis and return of test results, diagnostic imaging, etc are done on software, reducing troubles for people, improving service quality and aiming for international standards.

(Source: quangninhcdc.vn, access date 1-6-2022)

Then VT Binh, DTN Huy. (2021) suggests solutions for Treatment of Patients at Hospitals in Vietnam and supported by (PTB Ngoc et al, 2020; VT Binh, DTN Huy, 2021). Therefore, the quality of life of liver cancer patients is a health issue of increasing concern. Next, Nguyen Thi Minh Chinh, Pham Thi Bich Ngoc, Nguyen Minh

Loi, Dinh Thi Thu Hang, Dinh Tran Ngoc Huy, Pham Van Tung (2021) pointed that Roles of nurses and nursing is important in supporting cancer patient treatment.

Therefore authors conduct study “**Discussing Solutions for Cancer Treatment at the Cancer Center of Bai Chay Hospital, Quang Ninh - And Experiences from Other Countries**”.

Research issues:

Issue 1: Analyzing previous studies of cancer treatment.

Issue 2: Achievements in cancer treatment in Bai Chay hospital-Quang Ninh.

Issue 3: Lessons from other countries in cancer treatment.

Next we analyze related studies in below table:

Table 1. Summary of previous studies

Authors	Year	Content, results
Kudo et al.	2004	The multiplicity of these staging systems reflects the heterogeneity of HCC, regional preferences, and regional variations in resectability or transplant eligibility. Nevertheless, these systems do incorporate important determinants of survival including the size of the tumor, the severity of underlying liver disease, tumor extension into adjacent structures, and tumor metastases.
Liu et al.	2015	A number of staging systems have been developed, reflecting the heterogeneity of primary liver cancer, regional preferences, and regional variations in resectability or transplant eligibility. Multimodality treatments are available for this heterogeneous malignancy, and there are variations in the management recommendations for liver cancers across specialties and geographic regions.
Liver Cancer Study Group of Japan	2019	Presented in Korea, Hepatocellular carcinoma (HCC) is the fifth most common cancer globally and the fourth most common cancer in men in Korea, where the prevalence of chronic hepatitis B infection is high in middle-aged and elderly patients.
Anh, B.T.	2019	The quality of life of liver cancer patients is a new issue that is increasingly concerned by patients as well as health care workers.

Nguyen Trong Hung et al.	2022	People with underlying medical conditions are greatly affected by quality of life (21.3%), people without underlying diseases, quality of life is not affected (40.5%).
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(Source: author synthesis)

2. Methodology

Research subjects: Patients diagnosed with liver cancer are being treated at Cancer Center - Bai Chay Hospital - Quang Ninh province.

Then, author conducts Research period: from June 2019 to May 2020.

Next author will use research method:

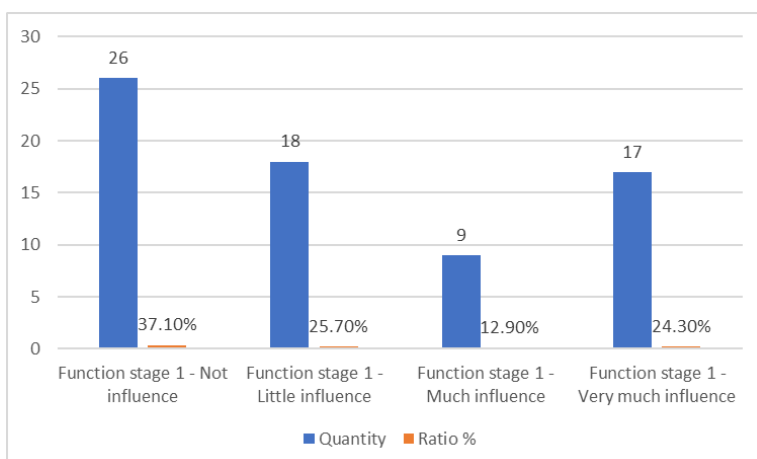
Study Design: A cross-sectional descriptive study.

3. Research Results

The provincial project of Bai Chay Hospital has received high appreciation for its novelty and high practical value in the context that gastrointestinal cancers and tumors have become common in Vietnam and tend to have a tendency to develop increasingly youthful direction; Conventional endoscopic methods only observe superficial lesions, not assess the extent of invasion in the gastrointestinal wall and outside the gastrointestinal tract. Application of endoscopic ultrasound – a method of using an endoscope with an ultrasound probe attached to a combination of endoscopy and ultrasound, fine needle aspiration cytology (EUS-FNA) under the guidance of endoscopic ultrasound at the hospital. Bai Chay Hospital can bring accurate results in diagnosis and effective intervention of gastrointestinal tract lesions and viscera near the gastrointestinal tract (mediastinum, left liver, pancreas, etc), support screening for diseases tumor management, gastrointestinal and pancreatic cancers.

We see in below chart 1 that: The highest ratio of 37.1% belongs to patients in stage 1 (with not influence). And then, the lowest ratio of 12.9% is belonging to patients in stage 1 with much influence, and so on.

Chart 1 - Evaluation of the impact on the overall quality of life of patients



(Source: Hung, N.T et al, 2022)

Table 2. Evaluating degree of impact on the overall quality of life of patients by areas divided by disease stage

Field/ Disease stage		Not influence		Little influence		Much influence		Very much influence	
		SL	%	SL	%	SL	%	SL	%
Health status	Stage 1 (n=70)	28	40.0	17	24.2	16	22.9	9	12.9
	Stage 2,3,4 (n=34)	5	14.7	4	11.8	10	29.4	15	44.1
	Total (n=104)	33	31.7	21	20.2	26	25.0	24	23.1
Communication status with family	Stage 1 (n=70)	27	38.6	18	25.6	16	22.9	9	12.9
	Stage 2,3,4 (n=34)	5	14.7	5	14.7	14	41.2	10	29.4
	Total (n=104)	32	30.8	23	22.1	30	28.8	19	18.3
Mental status	Stage 1 (n=70)	30	42.9	14	20.0	17	24.2	9	12.9
	Stage 2,3,4 (n=34)	6	17.6	3	8.8	9	26.5	16	47.1
	Total (n=104)	36	34.6	17	16.4	26	25.0	25	24.0
CLCS Overall	Stage 1 (n=70)	22	31.4	21	30.0	18	25.7	9	12.9
	Stage 2,3,4 (n=34)	4	11.8	5	14.8	8	23.5	17	50.0
	Total (n=104)	26	25.0	26	25.0	26	25.0	26	25.0

(Source: Hung, N.T et al, 2022)

4. Analysis

We see from above figure that the highest ratio of 40% belongs to health status in stage 1 (with not influence). And then, the lowest ratio of 12.9% is belong to patients in stage 1 with very much influence , and so on. Patients living quality at levels of no effect, little influence, great influence and great influence all accounts for about 25%.

Kudo et al (2019) said in Japan, Compared with the previous 19th survey, the population of patients with hepatocellular carcinoma (HCC) was older at the time of clinical diagnosis, included more female patients, included more patients with non-B non-C HCC, had smaller tumor diameters and more frequently received radiofrequency ablation as local ablation therapy. The results of the analysis show that the prognosis of HCC is improving dramatically. It is expected that the data obtained from this nationwide follow-up survey will contribute to advancing clinical research, including the design of clinical trials, as well as the treatment strategy of primary liver cancer in the clinical practice setting.

Kudo (2021) pointed in Japan. These two tumor markers were included among health insurance-covered screening tests in 1989 and 1994, respectively. Japan is the only country in the world in which these three tumor markers are included in routine surveillance under national health insurance without restrictions. Other important achievements in Japan include the invention of transcatheter arterial chemoembolization (TACE)], the development and the world's first commercialization of technetium-99m galactosyl human serum albumin liver scintigraphy for the assessment of hepatic functional reserve, the world's first hepatectomy, the development of anatomic liver resection, and the invention of local ablation (percutaneous ethanol injection) and percutaneous microwave coagulation therapy.

The 21st follow-up survey presents a number of findings for patients newly diagnosed with HCC in the 2010–2011 periods (Liver Cancer Study Group of Japan, 2020).

And, we see in blow figure that compared to Taiwan, US and Korea. The 5-year survival rate of all HCCs in Japan is 44.1%

Country	Period	5-year overall survival, %
Japan [40]	1998–2007	44.1
Korea ^a	2004–2008	23.3
Taiwan ^b	2010–2013	22
United States [41–44]	1992–2008	11–15

^a Ministry of Health & Welfare, The Korean Cancer Registry, 2010. ^b Cancer Registry, Taiwan 2001–2005.

Fig.1. Total survival of HCC by country

5. Conclusion

According to findings, we see from above figure that the highest ratio of 40% belongs to health status in stage 1 (with not influence). And then, the lowest ratio of 12.9% is belonging to patients in stage 1 with very much influence, and so on. To serve the field of diagnostic imaging and interventional radiology, the Provincial General Hospital has invested in many modern equipment, such as: Digital angiography to remove background (DSA),

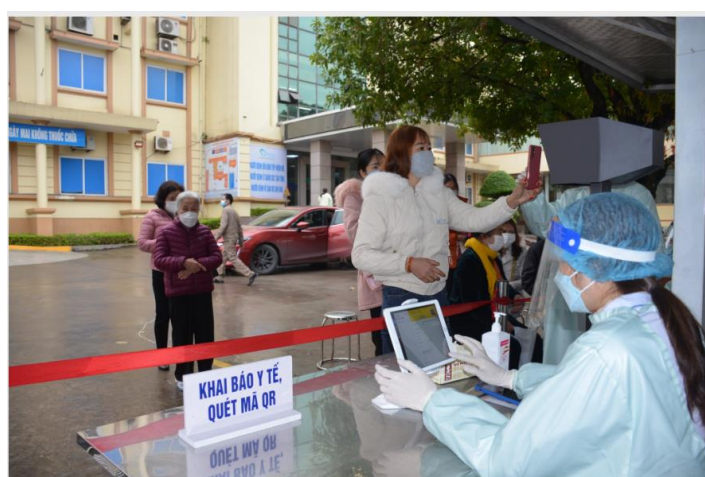
Revolution CT 512 computed tomography slices, 128 slices, 1.5 Tesla magnetic resonance, DR digital X-ray, cardiovascular ultrasound, 4D ultrasound, etc. Thereby, reducing the intervention time of surgeries, improving quality examine and treat patients and help patients have the opportunity to receive treatment at the locality without having to be referred. Every year, hundreds of patients are treated for vascular embolization due to liver, spleen, or kidney injury, or tumors, and hundreds of stroke patients are diagnosed promptly.

With the motto: If the central government can do any technique, Quang Ninh can basically do it. Over the years, the provincial health sector has deployed thousands of high and difficult techniques of the central level. Many difficult and complicated cases that had to be transferred to higher levels before have now been implemented in the province.

(Source: baoquangninh.com, access date 1-6-2022)

IT application is also one of the breakthroughs of the provincial health sector. Units in the whole industry have deployed LAN and internet systems; Professional and professional activities are computerized and performed on a computer network environment. The units all apply software in management, such as: Medical management database software, automatic numbering, medical record management, endoscopy, health insurance payment, accounting... to reduce administrative procedures, improve patient service quality.

Since 2014, the provincial health sector has applied telemedicine system with 16 bridge points at medical examination and treatment units in the province and 2 central-level hospitals for disease prevention, consultation and consultation. Professional consultation, remote medical examination and treatment etc., contributing to increasing operational efficiency, helping to quickly transfer medical technologies. Thanks to the strong application of IT, most administrative procedures and medical examination and treatment processes are carried out quickly, creating favorable conditions for people to use medical services and carry out administrative procedures, mainly when going to medical examination and treatment facilities.



(Source: author synthesis)

Fig.2. Tech/QR applying for patient treatment at Bai Chay Hospital

Research Limitation

Authors can expand study for other markets

Declarations

Source of Funding

This research work did not receive any grant from funding agencies in the public or not-for-profit sectors.

Competing Interests Statement

The authors declare no competing financial, professional and personal interests.

Consent for publication

Authors declare that they consented for the publication of this research work.

Authors' Contributions

All authors equally contributed in data analysis and paper drafting.

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